REMARKS

In an Office Action dated March 17, 2006, the Examiner objected to claims 1, 21, and 40 under 37 C.F.R. 1.75(d)(1) as not being supported by the specification and rejected claims 1-45 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The objections and rejections are traversed and reconsideration is hereby respectfully requested.

The Examiner objected to claims 1, 21, and 40 under 37 C.F.R. 1.75(d)(1) as not being supported by the specification and rejected claims 1-45 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. More particularly, the Examiner contended that the phrases "Layer 2 registration" in claim 1, "Layer 2 pre-registration" in claim 21, and "Layer 2 Serving GPRS Support Node pre-registration" in claim 40 do not have proper antecedent support per 37 C.F.R. 1.75(d)(1) and further comprise subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention, as is required by 35 U.S.C. §112, first paragraph. Claims 1, 21, and 40 have been amended to clarify that the registrations are Layer 2 registrations per the well-known OSI (Open System Interconnection) model. The applicants contend that support for these objected to phrases may be found in the specification and the known art.

The well-known OSI, or Open System Interconnection, protocol model defines a networking framework for implementing protocols in a protocol stack consisting of seven layers. From top to bottom, the seven layers are the Application Layer, the Presentation Layer, the Session Layer, the Transport Layer, the Network Layer, the Data Link Layer, and the Physical Layer. In turn, the Data Link Layer comprises two sub-layers, that is, the Media Access Control (MAC) layer and the Logical Link Control (LLC) layer. Individual layers within protocol stacks are logically, if not physically, terminated within corresponding layers of other protocol stacks.

The specification provides, on page 6, lines 10-25, that the described communication system operates according to the 3GPP General Packet Radio Service

(GPRS) standards, which standards are based on the Global System for Mobile Communications (GSM) standards. As is also well-known, the GSM standard does not number the protocol layers on a Um interface (GSM radio interface) following the Open System Interconnection) OSI standard. However, GSM Layer 2 and GSM Layer 3 on the Um interface are contained within OSI Layer 2.

That is, the IP (Internet Protocol) Layer on the Um interface comprises the OSI Layer 3 (Technical Specification (TS) 22.060, section 3.1 and section 5.3.1). The GPRS standard refers to a layer transferring "packets" only if the layer is part of OSI Layer 3. All other layers transfer protocol data units (PDUs) of one type or another. The GSM standard further provides that it refers to GSM layer numbering unless it explicitly refers to OSI layer numbering.

TS 23.060 figures 4 and 7 show the GPRS protocol stack. On the side of the MS stack, the IP layer comprises the OSI Layer 3. Between the SGSN and the MS, the Subnetwork Dependent Convergence Protocol (SNDCP) encapsulates network layer protocol packets for the LLC and provides functionalities for multiplexing of network layer messages onto a single virtual logical connection from the SGSN to the MS. GPRS Mobility Management protocol and Session Management (GMM/SM) protocol supports mobility management functionality. The SNDCP, GMM/SM, LLC, and RLC (Radio Link Control)/MAC are all part of the OSI Layer 2. The GSM RF (Radio Frequency) layer is the OSI Layer 1.

TS 44.064, section 4.2, clearly identifies the LLC Layer as part of the OSI Layer 2 (TS 44.064, section 4.2). Figure 5.2 of TS 24.007 then identifies the subcomponents of GSM Layer 3 on the Um interface. The LLC Layer is one of these subcomponents of GSM Layer 3 and it can be seen that the RR Layer (Radio Resource management layer) is below, and provides services to, the LLC Layer. Since the LLC Layer is part of OSI Layer 2 and since the LLC Layer is a sublayer of GSM Layer 3, and since the GSM standard considers the GSM Layer 3 to be single coherent component (TS 24.007, section 1), all of the sublayers of GSM Layer 3 are part of OSI Layer 2. Furthermore, section 2.4 of TS 100 942 v7.0.0 clearly identifies the GMM entity as part of Layer 2. Therefore, the GMM and RR Layers are part of the OSI Layer 2.

GPRS registrations, for example, with an SGSN, are performed by the GMM Layer. Therefore, the signaling involved in the pre-registration takes place at the GMM layer. As described above, the GMM Layer is part of OSI Layer 2. In any case, all of the protocol layers that terminate at both the MS and the SGSN (the GMM/SM, SNDCP, LLC, and RLC/MAC interworked with BSSGP), at which the pre-registration signaling could take place, are part of the OSI Layer 2. Furthermore, the System Information message utilized for registration in the pending application is an RR message and, as described above, the RR Layer is part of the OSI Layer 2. Therefore, the claimed SGSN registrations of claims 1, 21, and 40 are all Layer 2 registrations per the OSI model. Accordingly, the applicants respectfully contend that the features of claims 1, 21, and 40 are all supported by the specification or what was known in the art and respectfully request that the Examiner withdraw the objections to the claims under 37 C.F.R. 1.75(d)(1) and the rejections of the claims under 35 U.S.C. §112, first paragraph.

As the applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter.

Respectfully submitted,
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